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ABSTRACT

An exploratory investigation was conducted in a secondary school in Zimbabwe to determine pupils' attitudes toward technical/vocational subjects. It also investigated the relationship of those attitudes to: (1) pupils' perceptions of the world of work; and (2) the pupils' homes. In the first part of the study, 200 pupils completed an attitude measurement scale. In the second part, 22 of these pupils completed questionnaires, and their parents/guardians were interviewed at home. The study found that pupils' attitudes toward technical/vocational subjects and their potential as career choices are positive and that these positive attitudes seem to be unrelated to their perceptions of the world of work, their parents'/guardians' education or job, and their parents'/guardians' career aspirations for the pupils. (Document includes 34 references and questionnaire and interview forms.) (KC)

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Pupils' attitudes towards technical subjects: An exploratory study

Onward Mandebvu

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PUPILS' ATTITUDES TOWARDS TECHNICAL/ VOCATIONAL SUBJECTS: An exploratory study

Onward Mandebvu

DISSERTATION
submitted as partial fulfilment for an
MA DEGREE IN BUILDING EDUCATION

Linköping University
Department of Education and Psychology
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This study is an exploratory investigation, conducted within the context of a school, into Zimbabwean pupils' attitudes towards technical/vocational subjects. It attempts to determine pupils' attitudes towards technical/vocational subjects. It also investigates the relationship of these attitudes to, on the one hand, pupils' perceptions of the world of work and, on the other hand, the pupils' homes. Data were collected through an attitude measurement scale, questionnaires and interviews. The study concludes that pupils' attitudes towards technical/vocational subjects are positive and that these positive attitudes seem to be unrelated to the variables that were investigated.

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FOREWORD

This Master of Arts dissertation was prepared within the framework of a bilateral cooperation project between Sweden and Zimbabwe. The Swedish International Development Authority - SIDA - provided financial support for the project.

Linköping University has been responsible for the education in cooperation with the University of Gothenburg. Fifteen students participated in the programme. Three students completed the main part of their education at University of Gothenburg. Twelve students completed their education at Linköping University.

For the twelve Linköping University students, the Department of Crafts and Design held the major responsibility for the courses. The exceptions being the course in research methodology and the actual preparation of the dissertations where the Department of Education and Psychology was responsible. Facilities for the fieldwork were provided by the University of Zimbabwe.

The Department of Crafts and Design has been the host department and responsible for the administration and coordination of the programme.

Linköping May 16, 1989

Bengt Wetterstrand
Head of Department
Dept of Crafts and Design

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Lastly I would like to thank my wife Tracey and children, Catherine and Samuel, for bearing my absence from home for fifteen months during which I, among other studies, conducted this investigation.

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BACKGROUND AND PURPOSE OF THE STUDY

For decades now, there has been a growing trend to see education as a tool for servicing the developmental needs of society. Educational philosophers who hold this view, see the school as the agent of social reform. They believe that the social,political and economic world outside the school can be changed , if not completely, then certainly partly by introducing changes in the content of education (see Levin, 1978). It is argued that while there must be provision within education for self-actualization, the values, cognitive skills and competences developed should turn out manpower to develop society in a desired direction. Vocationalization of education is one such changes that countries, developed and developing, have employed in the hope of bringing about certain changes in society. This vocationalization of education has been spreading throughout the world and has recently come to Zimbabwe.

There has been a long-drawn debate about the premises and efficacy of vocationalizing education. People's attitudes towards vocationalized education are also generally believed to be less than favourable.The reasons seem to be largely related to the values placed on academic education and the low status of technical/vocational education. It struck this author that a sound knowledge of pupils' perceptions of technical/vocational subjects and the factors affecting pupils' attitudes towards these school subjects would contribute to the debate. When pupils' attitudes are well understood and taken into account in the vocationalization strategy of a country then the reform would probably produce the desired results.

Because of this interest in the vocationalization of education, an interest that emanates from teaching technical/vocational subjects in Zimbabwe, this author decided to make a contribution by studying pupils' attitudes towards those technical/vocational subjects that the pupils studied, and investigating the relationship between these attitudes and some elements of the pupils' educational environment. Specifically the research question is; "What attitudes do pupils hold towards technical/vocational subjects and to what extent are the pupils' perception of the world of work and the home related to the pupils' attitudes towards these subjects?"

The results of the study will be of significance in two ways. Firstly empirical knowledge of students' attitudes towards technical/vocational subjects is not yet extensive and it is hoped that this study will increase this knowledge.

Secondly, it is surmised that Zimbabwe (in which the study was done) has problems of unfavorable attitudes towards technical/vocational subjects. It is hoped that this study will contribute towards a better understanding of pupils' attitudes towards technical/vocational subjects, an understanding that may help policymakers and curriculum developers to evolve more effective ways of addressing the problem of unfavourable attitudes towards the technical/ vocational subjects.

1. VOCATIONALIZATION: THE REFORMATION OF EDUCATION

In this chapter, attention will be given to the historical background of technical/ vocational subjects in Zimbabwe, the debate on the vocationalization of education and lastly, to a review of field studies of pupils' attitudes towards school subjects. These three sections are important for putting the present study into perspective.

1.1 Historical background of technical/vocational education in Zimbabwe

Pupils' attitudes towards any school subject, do not form in a socio-political vacuum. To understand the socio-political environment of the school in Zimbabwe, it is necessary to review the development of education , especially technical/vocational education, in pre-independent Zimbabwe. The presentation below has been based on Zvobgo (1986) unless stated otherwise.

Education in pre-independent Zimbabwe was one of the cornerstones of the repressive racial policies of successive settler governments. European education was different from and superior to African education. In the early 1890s African education did not even receive any government support yet settlers education was fully funded by the government. Christian Missionaries bore the full responsibility of providing Africans with education. When the settler government of the time involved itself in African education, it was to establish a policy regulating the kind of education the Missionaries should provide. This policy stipulated that Africans were required to spend half their school day on industrial education such as building, carpentry and farming. This industrial education was not found in the European education and it was introduced not to produce skilled African workers, but in order to make African education unequal and inferior.

A more definite and direct involvement of settler government in African education came in 1918 when H.S.Keigwin, as Director of Native Education (DNE), laid down a policy which was meant to take the African student out of the cold intellectual atmosphere of the classroom into outdoor industrial education. During his term as DNE, Keigwin saw the establishment of two government industrial schools,one at Domboshava and another at Tjolotjo. These moves and those of subsequent settler governments did not represent a change of heart towards Africans and were not taken without arousing dissent from ultra-right white politicians and white artisans. According to N. P. Moyo (1988) white artisans in pre-independent Zimbabwe had formed a labour aristocracy which they jealously guarded against encroachment by Africans.

Any move to train Africans in skilled industrial work was therefore met with stiff opposition.

The rather liberal education policies of earlier governments were choked when a conservative party, the Rhodesia Front (RF) came into power. The RF brought in more entrenched racial segregation in education, by reducing government spending on African education and by relegating the control of the education to poor African District Councils. The epitomization of the RF education policies was its Education Act of 1966. Under this Act only 12,5% of all primary school-leavers would enter academic secondary schools (F1). Another 33.5% would enter vocational junior secondary schools (F2) and no provision was made for the remaining 50% of school-leavers. The act only applied to African education. Infact throughout all the years when changes were introduced to African education, European education remained privileged.

The vocational secondary schools created by the 1966 Education Act met with stiff resistance, not only from pupils and parents, but also from teachers and politicians. The philosophy behind the introduction of this education was that the school would relieve pressure from the F1 secondary school by enroling the academically less able. This was unacceptable to Africans. The resistance was strengthened by the realisation by both pupils and parents that a school-leaving certificate in non-academic subjects like building, carpentry and agriculture offered less employment prospects than one in academic subjects. Zvobgo (1986 p.26) quite accurately captures the reasons for the the failure of the F2 school system when he points out that,

> Vocational secondary education really failed to capture public favour because of the racist philosophy behind its introduction. It was seen as part of the RF' policy of separate racial development and an attempt by the government to provide Africans with an inferior education.

It was because of this historical background that the government, at independence, swiftly abolished the F2 school system.

Technical/Vocational subjects have, however, returned to Zimbabwe's secondary education, initially with an emphasis on Education With Production (EWP). In his discussion of EWP in Zimbabwe, Gustafsson (1988) outlines the government philosophy regarding work and education. He points out that EWP in Zimbabwe is seen as a means of combating eliticism and as a solution to a number of other social, economic and pedagogical problems. In pursuance of its socialist ideology the government is now in the process of laying greater emphasis on technical/vocational subjects with the aim of turning out school-leavers with vocational skills that they can use in employment or self-employment.

1.2 Vocationalization of education

This study on pupils' attitudes towards technical/vocational subjects is set within the wider field of interest of vocationalization of education. A brief explanation of what vocationalization of education is, giving particular emphasis to its aims and performance in the late developing countries (LDCs) is here attempted. The abbreviation LDCs is often used for "Least Developed Countries" but in this study, it is used for late developing countries.

1.2.1 What is vocationalization ?

"Vocationalization" of education is a term widely used in contemporary literature on education and development. It has been defined in a number of ways, some narrow and others broad. Lauglo and Lillis (1988) suggest that the term means curriculum change in a practical or vocational direction. This definition is less specific than the one given by Bacchus (1988 p. 31) who states that the term vocationalization

> ... refers to efforts by schools to include in the curriculum those "practical" subjects which are likely to generate among the students some basic knowledge, skills and dispositions that might prepare them to think of becoming skilled workers or to enter other manual occupations.

The above definitions leave the reader with the view that vocationalization of education is a curriculum innovation that occurs strictly within schools. Although vocationalization is essentially a curriculum reform, Marklund (1988) argues that the term can be stretched to denote not only the measures taken within school but also those involving co-operation between schools and the world of work,that aim to prepare an individual for a future occupation. Taken together, what emerges is that vocationalization of education is the diversification of education by the inclusion of practical subjects into what has hitherto been an essentially academic curriculum, with the specific aim of either orienting learners towards manual work or of giving them skills usable in future employment or self-employment. For this study this broad meaning of the term has been adopted.

1.2.2 Vocationalization of education - What for?

Vocationalization of school education, especially at the secondary school level, is a curriculum reform that has very much been in vogue in the late developing countries over the last decade. (Psacharopoulos, 1988). It seems to have been born more for economic than pedagogical considerations. Psacharopoulos (1988) finds that there have been both economic and political reasons for vocationalization.

Those who advocate vocationalization claim that the basic purpose of education should be to prepare individuals to be economically productive in the socio-economic context in which they live (Bacchus, 1988). It is argued that academic education does not encourage people who do not get white-collar employment to lead productive lives, that it gives people false aspirations and creates contempt for trades, crafts, manual work and agricultural work (Chi-Aleong, 1988). In other words the argument is that academic education leads to huge wastage of resources, resources spent in educating people who, after school, are unable to contribute to the economic development of their societies. Vocationalizing the school is thus seen as a way of improving the efficiency of the economic system of a society, in that it supposedly, develops appropriate skills, attitudes, competences and commitments (Bacchus, 1988). It is consequently argued that vocationalization does not just lead to economic development of a country but benefits the individual too, in the form of enhanced employment prospects and earnings.

Another economic reason for the vocationalization of education lies in some theories of economic growth. As Fägerlind and Saha (1983) find, it is argued in some economic growth theories that in order for a country to achieve meaningful industrial progress, it must develop, among other things, its human capital. This is done by gearing the country's education system to the production of such manpower that will develop the economy in the desired direction. It can be argued that this means the introduction in school of such subjects as technology, computers and information science - subjects that will produce manpower with the requisite skills for those economies that are developing towards increased industrialization.

In the LDCs however, vocationalization of education does not appear to be a product so much of economic growth theories as of economic recession. (see Lillis, 1982; Lillis and Hogan,1983; Lauglo and Lillis, 1988; Tilak, 1988). With shrinking economic growth and a massive expansion in formal schooling LDCs found themselves faced with the huge problem of unemployed school-leavers. Countries like Zimbabwe, in 1979 (the last year of colonial rule) had school enrolments of 819 586 in the primary schools and 66 215 in the secondary schools. In 1986 these figures had leapt to 2 260 367 and 545 841 respectively (Mackenzie, 1988). The education pursued was largely academic and at the end of their education most of the students swelled the ranks of the unemployed on the labour market. Governments have increasingly come to see vocationalization of education as part of their answer to this problem. The reasoning is that there is a mismatch between education and the needs of the labour market. Vocationalization of education would give pupils skills that would not only increase their occupational choices but also give a better fit between education and labour needs (Psacharopoulos, 1988).

Other more clearly political reasons for vocationalization are that this education makes the pupils' aspirations more realistic, away from white collar employment and towards manual occupations. It is also argued that vocationalization would dampen pupils' quest for academic education and encourage them to seek employment sooner. Exponents of vocationalization further argued that in agricultural or rural societies, the education would halt rural-urban migration and would transmit skills that pupils could use in self-employment.(see Lillis and Hogan, 1983; Bacchus, 1988 ; Tilak,1988).

Governments have not been alone in their faith in vocationalization. Educationists have added their voices. Mackenzie (1988, p. 350) writing about the situation in Zimbabwe says:

> There is a need for greater attention to the development of skills that will be of practical value to school-leavers, life skills that pupils can utilize outside the education system whether it be, for example, in subsistence farming or in small business enterprises or on factory assembly lines.

From the literature referred to above, it is evident that vocationalization has been employed in efforts to solve economic and employment problems. It has also been used for such political reasons as the control of rural-urban migration of people and the dampening of people's quest for more education. It has been hoped that people acquiring vocational education would seek employment sooner rather than later. It can however, be questioned whether the premises on which vocationalization is based are correct. Furthermore, it can be questioned whether vocationalization has so far been an effective tool for solving the problems of school-leaver unemployment, for halting rural-urban migration and for reducing the mismatches between education and the needs of the job market.

1.2.3 Criticisms against vocationalization

The vocationalism movement has not been without criticism. Criticism came as early as the 1960s from Foster (1967) who refuted the notion that unemployment of school-leavers is caused by an inappropriate education and that school-leavers shun manual work in preference for white-collar jobs. Foster argues that vocationalization alone cannot be a remedy for the unemployment of school-leavers, that it cannot prepare students for specific occupations and reduce mismatches between education and the employment market and that education alone cannot be expected to right the unemployment ills of a country. He argues that the huge wastage in investments, the high levels of aspirations created by schooling, and the nature of African demand for academic as opposed to vocational education constitute the core of the problem. Foster further argues that the seemingly irrational demand by Africans for academic education is because in the eyes of most Africans that education is seen as the

"vocational" education leading to clerical and white-collar jobs. For vocationalized education to achieve a favourable status, it has to come as an integral part of a multi-dimensional reform strategy that also includes changes in the value and reward system of a country.

The import of Foster's argument is that as long as vocationalized education is not seen by students to lead to well-paid occupations and high status in society, that as long as employers prefer and reward academic education better than vocational education then these subjects in school will remain unpopular.

Nearly ten years later, the same line of argument against the premises of vocationalization was given by Blaug (1973). Apart from the above line of argument, Blaug questions the wisdom of using manpower forecasts as a basis for educational planning. He contends that no act of skills forecasting can accurately forecast employment requirements for three, four or five years to come. Blaug (1973) further argues that the best, most adaptable education for future employment needs is therefore a general education. He contends that a general education would have the extra advantage of being cost-effective.

Tilak (1988), in writing about vocationalization in South Asia says the reform in the region and elsewhere, was based on false assumptions. He said that experience had shown that vocationalization does not create employment, that it does not contribute significantly to self-employment and that it does not change pupils' attitudes towards manual work or further education. The same line of argument is taken by Carnoy and Levin (1978) who question the premise that educational reform can resolve social dilemmas that arise out of the basic nature of the economic, political and social system itself. Coombs (1968, p. 97) sums the argument against the goals and efficacy of vocationalization quite clearly when he says;

> An educational system and its students cannot be asked to do what society itself and the government, by its incentive and prestige scales, is not prepared to do to implement the proclaimed goals.

These rebuttals of the premises and efficacy of vocationalization are recurrent criticisms against the vocationalization of education.

Notwithstanding the arguments and accumulating evidence against vocationalization, it seems that vocationalization has not lost its appeal to organizations like The World Bank and UNESCO (Tilak, 1988) nor has it lost its appeal to governments as evidenced by the number of countries that are vocationalizing their education. It is pertinent, at this point, to ask whether, in view of the poor track record of vocationalization, technical/vocational subjects still have a place in today's secondary school.

It can be argued that the answer to the above question should be a qualified "yes". That technical/vocational subjects should be part of secondary school education seems to be the consensus of many educationists. (see Fägerlind and Saha, 1983; Timar, 1983; Chikombah, 1988; Chin-Aleong, 1988 ; Wright, 1988). It is argued that with fast changing industrial technology, technical/ vocational subjects should be included in secondary school curicula as an integral part of general education. Chin-Aleong (1988) argues that what this means is that the actual technical skills imparted in school may be less important than the creation of attitudes and cognitive abilities which would enable an individual to adjust frequently to changing employment demands. So a general orientation towards vocational skills, and not job-specific skills, would become the new emphasis.

The discussions on vocationalization of education, especially critiques of the likes of Foster, Blaug and Tilak, suggest that in countries where the economy still favours academic education, attitudes towards technical/vocational subjects may be unfavorable. In Zimbabwe, as N. S.Moyo (1988) indicates, one of the problems facing the teaching of technical/vocational subjects, is the negative attitude of many people towards the subjects. Moyo is an Education Officer for technical subjects in Zimbabwe who deals directly with the implementation of government policy. His views can therefore be taken as current government opinion on the matter.

If it is true that attitudes towards technical/vocational subjects are negative then it is indeed an undesirable state of affairs. The indications are that vocationalization of education is here to stay, at least for the foreseeable future. So the need for attitude change is imperative. If people's attitudes towards vocationalization are to be changed,it is important to know what factors are relevant. Specifically, it is important to understand the factors related to the attitudes towards vocational education of the direct recipients of the education - the pupils. This study will investigate the extent of the relationship between pupils' attitudes towards technical/vocational subjects and some variables of the pupils' educational environment. A review of previous studies that have a bearing on this study is important.

1.3 Factors affecting pupils' attitudes towards technical/ vocational subjects

Pupil' attitudes towards school subjects can be related to a number of factors. Some studies have suggested that labour market forces and economic opportunities prevailing in the country can shape pupils' attitudes towards some school subjects. (Foster, 1965; Lauglo, 1985 ; Wright, 1988). Foster (1965) in his classical study of 416 boys in Ghana suggests that it is fallacious to believe that pupils prefer academic education per se and that they shun blue-collar jobs

and prefer white-collar jobs. In his study, Foster found that the majority of the boys were interested in technical/practical kinds of employment. He further found that these kinds of employment were popular because of the status and high salaries that went with them. Foster then concluded that pupils' career choice appeared to be influenced by factors outside the school. He further concluded that the question of which kind of education people preferred depended not on the education itself but on the people's perception of whether the education would lead them to their desired goals. Närman (1985) in a tracer study of the 1984 Industrial Education (IE) graduates in Kenya, also found that the perceived employment value of an education can affect people's attitudes towards that education. He found that the attitudes towards IE of both the pupils who had studied the IE for the 1984 school leaving examinations and their parents, were positive - a condition that he ascribed to the people's perception that IE would enhance the graduates' chances of employment.

The possible influence of the labour market forces on pupils' attitudes towards some school subjects is clearly shown by Wright (1988). He reported that in a study in Sierra Leone, attitudes towards business education at a few schools were very positive because graduates from these schools were in great demand and earned very good salaries. In the same study, it was found that those pupils who said they paid the least attention to Woodwork and Metalwork said they did that because they did not see where the subjects lead. It appears that pupils' perception of the utilitarian value of school subjects can be a significant factor in shaping pupils' attitudes towards these subjects.

The early studies on pupils' attitudes towards technical/vocational subjects reviewed above dwelt on the the possible influence of the world of work on pupils' attitudes. There are other factors that shape pupils' attitudes.

Some studies have been conducted on the relationship between pupils' attitudes towards education and the influence of their homes (Keeves, 1972; Clifton, 1978). These studies have shown a significant relationship between various factors of the home, particulary the father's education and the work he does on the one hand and the pupils' attitudes towards education on the other.

In a comparative study of performance in Physics and Chemistry of 14-year old pupils from England and New Zealand, Clifton (1978) made a number of findings regarding the influence of the home on attitudes towards and performance in the named subjects. He found that children who received greater encouragement from their parents had positive attitudes towards education and performed significantly better than those who received less encouragement. The parents' education, particulary the father's education, was also found to be a factor that influenced the children's performance. Although attitudes and performance of children were not to a great extent dependent on

the socioeconomic status of the home, it was found that the father's occupation had the most powerful (of all the home variables) influence on performance.

Keeves (1972) made similar findings in his study of Australian students. The study concerned the influence of the home, the school and the peer group on the performance of pupils in Mathematics and Science. Apart from findings similar to those of the Clifton study, this study also found that there appeared to be a significant relationship between attitudes and performance of children on one hand and the ambitions and aspirations of parents for the their children on the other. Keeves also found that pupils' attitudes towards school were positively related to their friends' level of participation in Science and Mathematics lessons and negatively related to the friends' involvement in pop-culture.

1.4 Conclusions and research objectives

The studies on pupils' attitudes towards technical/vocational subjects that have been reviewed, dealt only with the possible influence on pupils' attitudes of the world of work. There are other factors that affect pupils' attitudes. Studies done with non-technical subjects like Physics, related the pupils' attitudes to home factors. But these studies were done in developed countries. There is need to examine technical/vocational subjects and to do the studies in the LDCs also. The need to do similar studies in the LDCs arises from an realization of the undoubtedly wide differences between the social-cultural milieu of developed countries and of less developed countries. The objectives of this research then are:

1. To determine the attitudes of secondary school pupils towards the technical/vocational subjects they study.
2. To investigate the relationship between the students' attitudes towards technical/vocational subjects and the pupils' perception of the world of work through;
   (i) Pupils' career aspirations.
   (ii) Pupils' perceptions of the monetary and status reward systems of society.
3. To investigate the relationship between the students' attitudes towards technical/vocational subjects and the pupil's home through;
   (i) The number of years of education of the parent/guardian.
   (ii) The type of occupation of the parent/guardian.
   (iii) Career aspirations for the pupil of the parent/guardian.

2. METHODOLOGY

In this chapter, a detailed description is given of the research design, the selection of the subjects, the data collection instruments used and the procedure followed in collecting the data.

2.1 Research design

Research is often described as a systematic way of inquiry, with the ultimate aim of either contributing towards solutions to problems at a local level, or of advancing the process of knowledge-building in a specific discipline.The process of knowledge-building is heirachical, advancing from exploration through to the building of theories. The research methods used in any study are, accordingly, related to the level of knowledge-building that has been reached in that area of study.

This study is an exploratory study. The choice of the study design was heavily influenced by the consideration that the review of literature has revealed a scarcity of studies in the area of attitudes towards technical/vocational subjects.This points to the need for further exploration and confirms the present level of knowledge in this area. Consideration was also given to the fact that the present study contains factors that have been derived from studies on technical/vocational subjects as well as from other school subjects - an untried combination that could best be treated through an exploratory study.

The study was carried out in two parts. The first part involved the determination of pupil's attitudes towards technical/vocational subjects at a chosen school. The second part was an investigation into the relationship between the attitudes towards technical/vocational subjects of a sub-group of the pupils and the pupil's perception of the world of work, and on the other hand, the relationship between the the pupils' homes and the pupils' attitudes.

It was decided to make one school the context of this study. This was to ensure that the influence of the school on the pupils' attitudes towards technical/ vocational subjects would be controlled. It has been argued (Foster, 1965) that factors related to pupils' attitude towards technical education may well lie outside the school.It is these factors outside the school that are the focus of this study.

The school had to be one that offered technical/vocational subjects to both boys and girls at "O" level but not be in any way special. Convenience of access was also considered important. Mount Royal Secondary School met both these requirements and was selected for the study.

In order to be able to describe the context within which the study was done, information on the school was required. This information was obtained through an interview with the headmaster.

2.2 Selection of the subjects

The subjects for the first part of the study were Form Three pupils. Form Three pupils were chosen for three reasons. First, they were not involved in terminal examinations and secondly, they had studied technical/vocational subjects longest. After studying the subjects for three years their attitudes towards technical/vocational subjects would be well established. The third reason was that, being only one year away from the "O" level terminal examinations, they would have started making fairly realistic career choices.

To keep the study within manageable limits it was decided to use six of the eleven Form Three classes at the school for the study. In order to avoid inconvenience the classes used for the study were those that were not engaged in lessons at the time.

Subjects for the second part of the study were a selected sub-group of the Form Three pupils who had taken part in the first part of the study and their corresponding parents/guardians. Twenty-five pupils were chosen. This sample was made that small to allow home interviews to be completed before the end-of-year industrial holiday.

Approximately a fifth of the pupils from each participating class were selected. A point in the class was arbitrarily chosen from which counting of the pupils would begin. Every fifth pupil counted was taken for the second part of the study and the corresponding parent/guardian was then invited to participate in the study. This method of sampling was used because pupil's attendance at that time of the year was very irregular. Simple random sampling was not possible because some pupils would quite probably not be at school.

2.3 Research instruments

Three types of data collection instruments were used for the study. Each instrument will be described below. Reasons for the selection of each of the instruments will also be given.

2.3.1 Attitude measurement

Attitudes hold varied meanings for different people. However, one meaning of attitude generally accepted is that attitudes have three components, the cognitive, the affective and the behavioural (See Deaux and Wrightman, 1984;

Freedman et. al. 1981). The cognitive component is that part of our attitude which has something to do with our beliefs, ideas and knowledge about an object. The affective component is our emotional feelings about an object - our feelings of like and dislike.

It is generally accepted in Social Psychology that a person's overt behaviour towards an object does not just reflect the behavioural aspect of his attitude but the totality of his attitude, which includes the cognitive and the affective aspects as well. Current emphasis is, however, on the evaluative/affective component where a person's attitude is measured by degrees of agreement or disagreement on a positivity-negativity continuum. The Likert scale is a very simple attitude measurement scale based on this continuum.(see Shaw and Wright, 1967).

A Likert scale was selected because it appeared the most meaningful for use in the group testing situation and it was fairly easy to construct. The method is of course not without shortcomings. It can be argued that the scale measures what people say their attitudes are and not necessarily what the attitudes actually are. Because of this, some researchers show scepticism towards the use of this method in attitude measurement, arguing that observations of people's actions relative to the object in question is best. However observation of human actions that would show a person's attitude towards an object is easier with some objects than with others. As a result attitude measurement instruments like the Likert scale are often used.

When constructing the Likert scale (see appendix 1) an initial pool of items was built up, most of which were derived and adapted from Shaw and Wright (1967). Half of the statements were positive and the other half negative. A draft was sent for a trial run with a group of Form Three pupils in another school than the one used for the study. There were five categories of response to an item and each category was given a rating with 1 for the most negative to 5 for the most positive. For each subject, a total score was obtained by adding together the subject's scores for the individual items. All non-responses were treated as neutral responses and given a score of 3.

The item analysis adopted was that recommended by Edwards(1957). Each item's discrimination index was calculated from the scores of the top 25% and those of the bottom 25% of the subjects.To arrive at this measure,the means of the responses on each of the items for the separate groups were calculated.Then the difference between the means of the items for the groups were found. .The final scale of twenty-five items was then built from those items with the best discrimination. Approximately half of the items in the final scale were positive and these were spread throughout so that subjects would be unlikely to form patterns of responses.

2.3.2 The questionnaire and the interview schedule

The focus of the second part of the study was the home. The extent of the relationship between pupil's attitudes and the home was to be investigated. To get detailed information it was decided that interviews with the pupil's parents/guardian would be best. Another reason for the choice of interviews was that the level of literacy of this group was unknown but suspected to be widely varied.

A semi-structured, semi-standardized interview schedule was made to investigate the extent to which the attitudes of pupils towards technical/vocational subjects, were related to the education, the type of occupation and to the career aspirations for the pupil of the pupils' father/guardian or most influential member of the family.(See appendix 2.)

Supportive information and information on pupil's perception of the world of work was to be obtained from pupils. To minimize disruption, the information would be obtained through a questionnaire, administered at the same time as the attitude scale.

A questionnaire was used to find out the pupils' perceptions of the world of work and who the pupils regarded as the most influential person in their homes (see appendix 3).

2.4 Reliability and validity of instruments

If the results of a study are to carry any credence, the data collection instruments used must measure what they are intended to measure. Quite often a co-efficient of reliability is computed to report the degree of reliability of an instrument. It is,however, possible to ensure the reliability of data collection instruments by taking certain measures during the construction and administration of the instruments. The following measures, largely adopted from Helmstadter (1964) and Kerlinger (1973), were taken to ensure the reliability of the instruments used in this study.

First, at the construction stage, care was taken to use a level of language commensurate with the level of education of the subjects. Effort was also made to keep out technical terms and ambiguous words. Consideration was given to the length of each instrument. A twenty-five item attitude scale and twelve question interview schedule and questionnaires were considered long enough to keep the probability of random error low, yet not so long as to introduce data unreliability resulting from fatigue. Care was also taken in the arrangement of items in the instruments. Sensitive items, for example about people's levels of

education, were preceded by less sensitive items and asked in a manner that would cause least embarrassment.
At the instrument administration stage,extra effort was taken to ensure the reliability of the measures. This author explained to the subjects the purpose of the study and emphasized the importance of truthful responses. Clear and uniform instructions were given to the subjects and the instruments were administered in familiar environments. All pupils were in their classrooms, where the normal classroom atmosphere prevailed. Parents/Guardians were interviewed at places of their choice, which turned out to be either their homes or workplaces.

Attention was also given to validity, particulary content validity. As pointed out by Helmstadter (1964), Kerlinger (1973) and Mason and Bramble (1978), content validation consists essentially in judgement by experts in the domain of knowledge being studied. For this reason the research instruments were submitted to fellow students who have years of experience in the teaching of technical/vocational subjects and the research supervisor for evaluation. The final instruments were constructed based on their advice.

Having taken the measures described above, this author was satisfied that a sufficient degree of reliability and validity of the instruments had been ensured.

2.5 Data collection

Following the granting of permission by the Ministry of Primary and Secondary Education for this author to conduct a study in schools, a letter was sent to the headmaster of Mount Royal Secondary School requesting permission for the use of his school in this study. After follow-up communication by telephone the school head granted permission and a date for the first visit to the school was set.

On the first visit to the school, a discussion was held with the deputy headmaster of the school during which the times when pupils would be available for the study were agreed upon. A date for the commencement of the study was set. All research instruments were administered by the author and were collected as soon as they were completed. A few interview schedules were converted to questionnaires when, even after several visits, this author had been unable to find the parents/guardians. The interview schedules were then left at the homes and the children asked to bring them, completed, to school for collection by this author.

Prior to the administration of the instruments, a brief introduction of the purpose of the study was given. Reasonable precaution was taken to ensure that

the manner in which the introduction was given would not influence the response of the subjects.

The attitude measurement scale was administered to all the pupils found in each participating class and a total of 200 pupils took part in this part of the study.To minimize the risk of measuring group and not individual attitudes, the subjects were advised to work independently.

Participants for the second part of the study were selected as described earlier. These pupils were given questionnaires to complete. They were also given a letter of invitation to the parent/guardian to take part in the study.

The pupils were to bring back to school the completed letters for collection by this author. These completed letters showed the name and address of the person to be interviewed, the name of the pupil and the date and time set for the interview. These names and addresses were followed up, interviews conducted and a total of twenty-two out of twenty-five people participated in this part of the study. The other three subjects could not be found at the given addresses, even after several visits.

The data collected was analysed through frequency analyses and non-parametric methods of finding coefficients of correlation. In computing the frequencies shown in table 6, there were two non-responses. These were the parents/guardians who had indicated an education of eighteen and twenty years. The parents/guardians are two of the few parents/guardians who provided their information in writing. The parent/guardian who had indicated an education of twenty years also indicated that he was a tailor. It is unlikely that a tailor can have twenty years of formal education. It is highly probable that this parent/guardian misunderstood the question.

The other parent/guardian left out of this analysis was the uncle who said that he did not talk to the child about school or careers. He was excluded because the pupil had indicated that the father was the most influential person in her education but she had given the uncle's name for the interview because the father was away.

3. RESULTS

This study was done within the setting of a school. For the results to be understood within that context, the school is described first. The results of the study then follow.

3.1 Mount Royal Secondary School

Mount Royal Secondary School is a government, co-educational, day school in one of Harare's high density residential areas. It has Forms One to Four. Like most urban schools, it is a large school with an average number of six classes per form at junior level and ten at Form Three and Form Four level.

The technical/vocational subjects offered in the school are Woodwork and Metalwork for boys, then Fashion and Fabrics, and Food and Nutrition for girls. Each pupil is required to study one of these subjects. They do not have a choice. The subject is decided by the school. In making the classes, the only criterion used is a satisfactory pass in the preceding form.

Most of the teachers in technical/vocational subjects hold the Zimbabwe Secondary School Teacher's Certificate in their areas of specialization. One of the teachers in Woodwork has a trade certificate. This is not a teaching qualification but a qualification that used to be awarded to people with full primary education who had undergone training to become artisans in industry. Those who joined the teaching profession were not recognized as qualified teachers until they had improved their academic education to the equivalent of four years of secondary education and had undergone a special teacher training programme.

According to the headmaster, facilities for the teaching of technical/vocational subjects in the school were inadequate. Machinery that broke down in the workshops took a long time to repair and for a long time there had been no additional supplies of basic workshop tools. The headmaster indicated that the position for the girls' subjects was slightly better. Here the parent-teacher association of the school had recently bought sewing machines and cookers to supplement the diminishing resources.

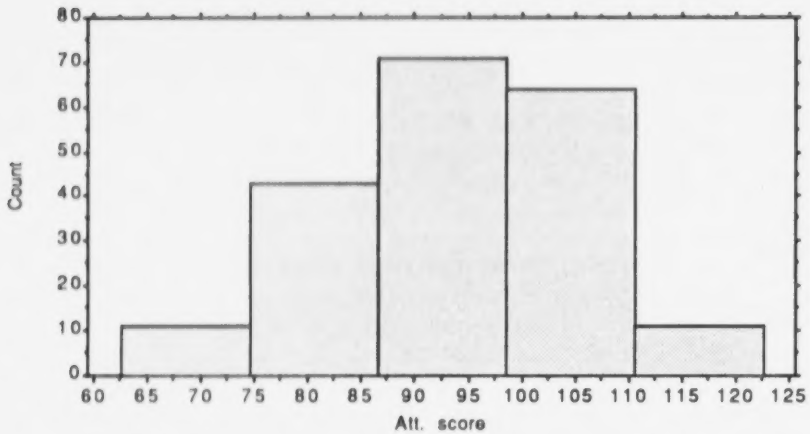
As the capital city, Harare is the centre of many industrial and commercial activities. Very close to the school there are many small-scale industries. These make such items as wood and steel door frames, window frames, burglar bars and wooden doors. Further away in the major industrial area are found food processing, furniture making, cement manufacturing and car building industries.

Mount Royal Secondary School then is an ordinary typical urban secondary school in Zimbabwe.

3. 2 Pupils' attitudes towards technical/vocational subjects

The pupils' attitudes were measured on a Likert scale. The minimum possible score was twenty-five and the maximum one hundred and twenty-five. The pupils' actual scores ranged from sixty-three to one hundred and thirteen.

The pupils' scores were grouped into five classes. This was in order to form categories of attitudes towards technical/vocational subjects. The class with the lowest score represents the most negative attitude, the third class represents a neutral attitude and the class with the highest score represents the most positive attitude towards technical/vocational subjects.



N = 200

Figure 1. Histogram of pupil's attitude scores

In Figure 1 pupils whose attitude scores fall into the two lowest classes and the two top classes have indicated clear positions of attitude. Because their positions of attitude are clear, the classes can be put into groups of negative and positive attitudes towards technical/vocational subjects. The two lowest classes form the group of pupils indicating a negative attitude and the top two classes form the group indicating positive attitudes towards technical/vocational subjects.

It is then found that fifty-four pupils, which is twenty-seven percent of the group, have indicated a negative attitude towards technical/vocational subjects.

Of the remaining one hundred and forty-six pupils, seventy-five, that is thirty-seven and a half percent,have indicated positive attitudes towards technical/vocational subjects. A fairly large group of seventy-one pupils showed attitudes towards technical/vocational subjects which were neither positive nor negative.

3.3 Assessment of pupils' perceptions of the world of work

The attitudes towards technical/vocational subjects reported above are those of the large group of two hundred pupils. Twenty-two of these pupils took part in the second part of the study and their responses on perception of the world of work are reported below.

The sub-group for this part of the study comprised fifteen boys and seven girls. Eight of the boys studied Woodwork and the remaining seven studied Metalwork. Of the seven girls in the group, six studied Food and Nutrition and one studied Fashion and Fabrics. The pupils also studied seven other subjects which were the same for all pupils.

The pupils were asked to name, without rank order, their two favourite subjects. Each pupil made two indications of favourite subjects, giving a total of forty-four indications. Table 1 shows the results.

Table 1. Frequency distribution of pupils' favourite subjects

Element:	Count:
Mathematics	2
Science	9
English	9
Geography	7
Shona	1
Woodwork	7
Metalwork	3
Fashion and Fabrics	2
Food and Nutrition	3
Accounts	1

Number of indications= 44.

All the technical subjects appear in the list of the pupil's favourite subjects, with ten out of fifteen boys listing either Woodwork or Metalwork and five out of seven girls naming either Food and Nutrition or Fashion and Fabrics as one of their favourite subjects. Woodwork had the highest number (seven) of indications of all the technical/vocational subjects. It should be noted that the number of pupils studying each technical/vocational subject varied from subject to subject. Their frequencies shown in table 1 above should therefore be seen against the total number of students studying that subject.

Of the non-technical subjects, Science and English were the most popular , with indications of nine each. These were followed by Geography which had a total of seven indications. Subjects like Shona and Accounts had only one indication each and none of the pupils listed History as one of his/her favourite subjects. The pupils were asked to indicate two reasons why they liked the subjects they had named as their favourite. Thirteen pupils made only one indication each and nine made two indications each.

Of the thirteen pupils who gave only one reason each, eight said that they liked a subject because they thought the subject would help them to get a job and four said that that they liked a subject because they were naturally good at it. Two pupils indicated that they liked a subject because of the friendliness of the subject teacher.

Among the nine who made two indications each, the reason for interest in a school subject that received the highest number of indications was the friendliness of the subject teacher. This had seven indications. Following this was the perception that the subject would help one to get a job and that pupils felt naturally good in the subject, each of which received five indications. One pupil gave a reason other than those provided on the questionnaire. His reason for interest in Metalwork was the availability of learning resources for the subject. No pupil indicated that the popularity of a subject with other pupils was a reason for their interest.

When the results of the two groups are put together, it is found that the perception that a subject would help one to get a job was the reason for liking a subject that received the highest number of indications. Eighteen out of twenty-two pupils made this indication.The second most popular reasons were the friendliness of the subject teacher, and the feeling that pupils liked a school subject because they were naturally good at the subject. Each of these reasons received nine indications.

The pupils were also asked to list, regardless of rank order, two subjects they disliked the most and give reasons. All pupils except one listed two subjects, giving a total of forty-three indications. Table 2 shows the results.

Table 2. Frequency distribution of subjects that pupils dislike most

Element:	Count:
Bible Knowledge	1
Accounts	8
Mathematics	10
Shona	11
History	12
Metalwork	1

N = 43

Only one technical/vocational subject (Metalwork) was listed among disliked school subjects. and this was listed by only one pupil. The subjects with the highest frequencies were History (twelve), Shona (eleven) and Mathematics (ten).

The most common reason given for disliking a subject was that the subject was difficult, a reason given by twelve pupils. The apparent unimportance of a subject was given by six pupils and five pupils said they did not like a subject because of the way it was taught.

When tables 1 and 2 and the reasons given for liking and disliking subjects are viewed together, it is found that pupils indicate a tendency to evaluate a school subject on the basis of their perception of how useful the subject would be in helping them to realize their career ambitions.

The pupils were asked to express their career aspirations. A variety of jobs were named. Ten pupils named occupations that can be classified as blue-collar occupations. These were occupations like motor mechanics, fitters, turners and technicians. The other twelve pupils chose white-collar jobs such as engineering, teaching, nursing and secretarial work. The common reasons given for the careers aspired to were the opportunity to use natural talent (given by eleven pupils), the perceived high remuneration of a career (given by eight pupils.) and the status of the career (given by seven pupils).

The pupils were given a number of school subjects and asked to say how useful they thought these subjects were for their chosen careers. All fifteen boys rated their technical/vocational subjects as either very useful or useful. Most of the girls indicated the same. Only one of them did not say that her technical/ vocational subject would be useful for her chosen career. Another girl did not respond to this question.

English, Mathematics and Science were the best rated non-technical subjects. They were rated by not less than fourteen pupils as either very useful or useful.

When asked to show whether they would consider studying technical/vocational subjects at "A" level, if the subjects should be available, eleven pupils indicated that they would consider it and ten said that they would not. One pupil did not respond.

3.4 Assessment of the home environment

Earlier studies on the influence of the home (Keeves, 1972) have suggested that the education and job of the father and his career ambitions for the child may be strongly related to a pupil's attitude towards and performance in a school subject. In the present study, the home environment has been studied through these variables.

In order to identify the subjects for this part of the study, the pupils were asked to indicate the member of their family who had the greatest influence on their education. Sixteen pupils said it was their father, four mentioned their mother and two indicated that it was a brother. No pupil named any other person. For simplicity, the most influential person is called the parent/guardian.

In answer to the question whether their final career choice would be influenced by the advice of the parent/guardian,four pupils indicated that it would, six felt that it would very likely be influenced, and seven said that it could be influenced. Five of the pupils indicated that their choice would not be influenced by the parent/guardian.

Information about the variables of the home was obtained from the parents/ guardians. A total of twenty-two persons were interviewed. These comprised sixteen fathers, four mothers and two brothers. One of the sixteen fathers turned out to be an uncle who was the head of that household, in the absence of the actual father who was reported to be living in the countryside.

The parents/guardians were asked about their employment. Most of them had blue-collar jobs. Three were employed in the building trade, three factories and one was a domestic worker. Four were unemployed. The rest had low-level professional jobs in commerce except for one, an accountant.These can be described as white-collar jobs.

Parents/guardians were also asked to say how many years of formal education they had had. One parent/guardian reported a total of twenty years of education. Another reported eighteen years and the majority (fourteen of

them.) reported that they had had an education of between eight and twelve years. Six parents/guardians indicated that they had between three and seven years. The number of years given did not include years spent repeating a class or in formal job training.

From the number of years of education given, one finds that most of the parents/guardians had either a complete primary school education or an additional two or four years of secondary education.

The parents/guardians were asked a number of questions that were meant to ascertain their views on education as well as their relationship with the students.As to the purpose of education, parents/guardians invariably said that the purpose of education was to develop the learner's mind and raise his chances of living a good life. One parent/guardian whose views could be considered as representative of this group said , "The purpose of education is to develop one's mind so that one might be better able to make a living in one's environment."

A few parents/guardians felt that apart from giving a person a better life, education is also beneficial for the economic development of one's country. There were also a few parents/guardians who expressed their views in less general terms. These indicated that the purpose of education is to give an individual qualifications for a job.

As a follow-up to the preceding question, the parents/guardians were asked to express their views on the teaching of technical/vocational subjects in secondary schools. All the parents/guardians expressed agreement with the practice. Many of them felt that technical/vocational subjects would be useful to the pupils through skills that would either enable them to engage in self-help work, to pursue hobbies, or form the basis for future job training. Only one parent/ guardian qualified his agreement by saying that he went along with the practice as long as pupils in schools were allowed to choose the subjects they wanted to study.

The parents/guardians were asked whether they were pleased with the performance of their children. They were also asked to indicate the subjects in which they thought the performance of their children was most satisfactory and those in which the performance was least satisfactory. No limits were set on the subjects they could name.

Half the number of parents/guardians felt that their children were doing as well as they expected. Twelve parents/guardians named English and eleven named the technical/vocational subject that their children studied as the subjects in which they found the performance of the pupils most satisfactory. Other subjects, such as Geography, Science and Shona, were named, but by only a few persons.

Eleven parents/guardians felt that their children were not doing as well as they expected of them. Performance was said to be most unsatisfactory in Mathematics (fifteen), Shona (eight), History (eight) and Science(six). Two parents/guardians felt that the performance of their children was unsatisfactory in all the subjects. No parent/guardian specifically named any technical/ vocational subject as one of the subjects in which performance was unsatisfactory.

Parents/Guardians were also asked to name subjects which they would advise their children to drop, if the school should decide to decrease the number of subjects on offer. No limits were set on the number of subjects.

A total of thirty-nine indications were made. A large number of the parents/ guardians said they would advise their children to drop Shona (twelve) followed by History (ten). Only two technical/vocational subjects (Fashion and Fabrics and Food and Nutrition) were named in this category. Two parents/guardians felt that they did not know the subjects studied by their children well enough to advise on which ones to drop. Some parents/guardians named subjects like Bible Knowledge, Literature in English and Commerce which were in any case not offered in the school. (see Table 3.)

Table 3. Frequency distribution of subjects that parents/guardians would advise the pupils to drop

Element:	Count:
Bible Knowledge	3
Lit. in English	1
Mathematics	4
History	10
Shona	12
Accounts	1
Commerce	1
Geography	3
Food and Nutrition	1
Fashion and Fabrics	1
Do not know	2

The parents/guardians were asked to give reasons for their would be advice. A subject's perceived unimportance in helping one to find employment was the

main reason given by the parents/guardians. Two parents/guardians felt that the technical/vocational subjects for girls were not helpful, and a large number of parents/guardians would advise their children to drop Shona (six) and History (five) because they felt that these subjects were not really necessary in order to get a job. Other reasons given were either that the subject was difficult for the child, that the child had no interest in the subject or that the child's performance in the subject was poor.

In answer to the question on the frequency with which the parents/guardians discussed careers and education with their children, twelve parents/guardians indicated that they quite frequently did, four said they rarely did, and six said they never did. Those who said that they discussed careers and education with their children - whether frequently or less frequently - were asked what the substance of these discussions was. The general answer was that they discussed the pupils' performance at school, career aspirations - both of the pupil and of the parent for the child - and also talked about successful people they know. They said they did this in order to motivate the pupils to work hard at school.

Those parents/guardians who said they did not talk to their children were asked to elaborate on their responses. Three of them said the pupils were rather quiet and looked disturbed when one started talking about their school work. One said he was not the father of the pupil, although he lived with the child but that he sometimes talked with the pupil's father about the child's school work. The last two said that they were planning to talk about these topics when the pupils were in their last year at school.

3.5 Analysis of data

In order to examine the relationships between a set of measures of the home environment, pupils' perceptions of the world of work, and pupils' attitude towards technical/vocational subjects, frequency analyses and Spearman's Rank Order co-efficients of correlation were used. The use of Spearman's RHO was decided upon because the data was collected on the ordinal scale.

In the frequency analysis, only actual frequencies have been reported. Given the small number of the subjects, it was felt that actual frequencies give a more accurate basis for comparison than percentages.

3.5.1 Relationship between the pupils' attitudes towards technical/ vocational subjects and their perceptions of the world of work

The results of the first selected group of two hundred pupils indicate that the attitudes of Form Three pupils at Mount Royal Secondary School are modestly positive. The majority of them are at least tolerant of the subject and only

thirteen and a half per cent indicated attitudes that are clearly negative.The results of these two hundred pupils include the results of those twenty-two pupils who participated in the correlational study. When the results for this smaller group are extracted, they stand as presented in Table 4.

Table 4. Pupils grouped according to their attitudes towards technical/ vocational subjects

Negative att.	Neutral att.	Postitive att.	
10	5	7	N=22

Pupils with negative attitudes formed the largest group. The relationship between these attitudes and a number of variables will be investigated below.

If pupils associate school subjects with careers and are influenced in their attitude towards a subject by their perceptions of the utilitarian value of the subject, then an analysis of the pupils' career aspirations versus their attitude towards technical/vocational subjects should be illuminating.

Table 5 gives the results of the frequency analysis of the relationship between pupils' career aspirations and the the pupils' attitudes towards technical/ vocational subjects. There does not appear to be any relationship between pupils' career aspiration and their attitude towards technical/vocational subjects. Just as many pupils with negative attitudes towards technical/ vocational subjects aspired to white collar jobs as to blue-collar jobs (five pupils). The position is the same when the pupils with positive attitudes are considered.

Table 5 . Pupils' career choice and attitudes towards technical/vocational subjects

	ATTITUDE			
CAREER CHOICE	Negative	Neutral	Positive	
White collar job	5	3	4	N = 12
Blue collar job	5	2	3	N = 10

When the variables are correlated, there is a Spearman's co-efficient of correlation of 0,122 between pupils' career aspirations and their attitudes

towards technical/vocational subjects. The correlation is so low as to be insignificant.

Results presented earlier suggest that technical/vocational subjects were quite popular with the pupils. All technical/vocational subjects were listed among the pupils' favourite subjects. Table 6 shows pupils' stated interest in the subjects in relation to their career aspiration. Pupils' indications of interest in school subjects that were of no interest for this part of the study, have been left out. It should be noted that under technical/vocational subjects four school subjects are grouped. The other subjects, which are core subjects of the curriculum, are shown separately.

Technical/Vocational subjects were popular nearly as frequently with those aspiring to blue-collar jobs, as with those aspiring to white-collar jobs (six and nine pupils respectively). The same is true of English and Science. Mathematics was not a popular school subject.

When all the results presented in Table 6 are taken together it is clear that there is no relationship between the pupils' interest in the named school subjects and the the sort of job they intended to look for.

Table 6. Class of aspired to job and pupils' favourite subjects

	FAVOURITE SUBJECTS				
CAREER CHOICE	English	Mathematics	Science	Tech/Voc.	
Blue collar job	4	0	5	6	N = 15
White collar job	5	2	4	9	N = 20

The results presented in Table 6 suggest that technical/vocational subjects were quite popular with the pupils. In Table 7 an attempt is made to seek a relationship between this interest in the subjects and perceptions of their usefulness in the realization of the pupils' job aspirations.

The results presented in Table 7 indicate that nearly all the pupils, irrespective of type of career aspired to, expressed the opinion that technical/vocational subjects would be useful for the realization of their career ambitions. There were actually more white-collar job aspirants who felt technical/vocational subjects would be useful than there were blue-collar job aspirants. These results suggest that the pupils' interest in technical/vocational subjects is related to the perceived usefulness of the subjects in helping the pupils to achieve their goals and that this interest is regardless of the type of job aspired to.

Table 7 . Pupils' career choice and the perceived usefulness of technical/vocational subjects

CAREER CHOICE	USEFULNESS OF TECH/VOC. SUBJECTS Useful	Of no use	Do not know	
Blue collar job	9	0	0	N = 9
White collar job	11	0	1	N = 12

(1 non-response)

Table 8 shows the results of the frequency analysis of the reasons associated with career choice and the type of career chosen. Pupils were asked to indicate two reasons for their choice of career. For those aspiring to white collar jobs, the most frequently given reasons for choice of a career are the perceived opportunity to use natural talent and the good salary that goes with the job. The status of a job was not considered by many pupils as one of their reasons for a career choice. For pupils aspiring to blue-collar jobs, the use of talent and the status of the job are both mentioned four times. Only two pupils indicated that in making a career choice they considered the salary. For both groups, a small number of pupils also gave other reasons - like low risk of injury for nursing - as one of their reasons for career choice.

The results suggest that for pupils wishing for white-collar jobs, the choice of career is more strongly related to perceptions of the opportunity to use one's natural talent, and to the salary. For those aspiring for blue-collar jobs, the choice is as much dependent on use of talent as it is on the status of the job. It is significant that for the group aspiring to blue-collar jobs, a good salary is not mentioned as frequently as the other reasons for choice of career.

Table 8. Reasons for career choice and pupils' career aspirations (maximum two reasons per person)

REASON FOR CHOICE	CAREER ASPIRATION White collar job	Blue collar job	
Use of natural talent	7	4	N = 11
For a good salary	6	2	N = 8
Its a respected job	3	4	N = 7
Other reasons	4	3	N = 7

3.5.2 Relationship between some factors of the home and pupils' attitudes

The pupil's home is interesting. This relationship to pupils' attitudes is studied through the parent/guardian's education,type of job and the career aspirations of the parent/guardian for the pupil .

Table 9 indicates that there is a small negative relationship between the number of years of education of parents, and a pupil's attitude towards technical/ vocational subjects. Five of the pupils whose parents/guardians had an education of between eight and twelve years indicated that they had negative attitudes towards technical/vocational subjects. Only four indicated a positive attitude. Of the pupils whose parents had an education of between three and seven years, three pupils had negative attitudes and three positive.

When the variables are correlated, there is a very weak negative co-efficient of correlation of -0,242 between the number of years of the parent/guardian's education and the pupils' attitude towards technical/vocational subjects. The conclusion is that there is a tendency for the attitudes of the pupils towards technical/vocational subjects to become less favourable with increasing education of the parent/guardian.

Table 9. Parent/Guardian's education and the pupil's attitude towards technical/vocational subjects

	ATTITUDE			
PARENT/GUARDIAN'S EDUCATION	Negative	Neutral	Positive	
3-7 years	3	1	3	N = 7
8-12 years	5	4	4	N = 13

(2 non-responses)

Another dimension investigated in the relationship between a pupil's attitude and the home was the kind of job the parent/guardian did. The parent/ guardian's job has been classified as either white collar or blue collar.

In Table 10 the results are given of the frequency analysis of the relationship between a parent/guardian's job and the pupil's attitude towards technical/ vocational subjects. The majority (eight) of the pupils who indicated a negative attitude towards technical/vocational subjects have parents/guardians whose jobs are blue collar jobs. This is exactly twice as many as the children of parents whose jobs are also blue collar but whose attitudes towards technical/vocational subjects are positive.

It also appears that pupils whose parents had white collar jobs were not favourable towards technical/vocational subjects either. One pupil indicated a positive attitude and the other three indicated a neutral attitude towards technical/vocational subjects. The co-efficient of correlation between the parent/guardian's job and the pupil's attitude towards technical/vocational subjects is 0,13. This is an insignificant correlation. The conclusion is that the pupils' attitudes towards technical/vocational subjects are rather independent of the parent/guardian's type of job.

Table 10. Parent/Guardian's job and the pupil's attitude towards technical/vocational subjects

PARENT/GUARDIAN'S JOB	ATTITUDE Negative	Neutral	Positive	
Blue collar job	8	1	4	N =13
White collar job	0	3	1	N = 4

(5 non-responses)

The last of the elements through which the relationship between the pupil's attitude and the home was investigated was the career aspirations for the pupil of the parent/guardian. The careers aspired to were classified simply as white collar or blue collar.

Four pupils, whose parents wished for blue collar jobs for them, indicated negative attitudes towards technical/vocational subjects. Two of the pupils in this group indicated a positive attitude and one indicated a neutral attitude towards technical/vocational subjects.(see Table 11)

Table 11. Parent/Guardian's career aspirations for the pupil and the pupil's attitudes towards technical/vocational subjects

PARENT/GUARDIAN'S ASPIRATION	ATTITUDE Negative	Neutral	Positive	
Blue collar job	4	1	2	N = 7
White collar job	6	2	5	N =13

(2 non-responses)

Table11 also indicates that there is a slight positive relationship between a pupil's attitude towards technical/vocational subjects and the career aspirations

for the pupil of the parent/guardian who wished to see their children take up white collar jobs. Six of the children of such parents/guardians indicated a negative attitude, while five indicated a positive attitude towards technical/ vocational subjects. Put in other words, Table 11 indicates that there was a slight tendency for pupils, whose parents wished to see them take white collar jobs, to show a negative attitude towards technical/vocational subjects. However,when the results are taken together, there is a negligible co-efficient of correlation of 0,134 between the parent/guardian's career aspiration for the pupil and the pupil's attitudes towards technical/vocational subjects. There was no evident correlation between the parent/guardian's aspirations for the pupil and the pupil's attitude towards technical/vocational subjects.

Another interesting angle of the relationship between pupils' attitudes towards technical/vocational subjects and the home environment, is the comparison of the pupils' career aspiration with the parent/guardian's aspiration for the pupil. Table 12 shows the result of the frequency analysis.

Four pupils whose parents/guardians wanted them to take up blue collar jobs, themselves indicated that they were interested in white collar jobs. Three pupils indicated the same type of jobs as their parents/guardians wished for them. There was a stronger measure of agreement between pupils' aspirations to white-collar jobs and the aspirations of their parents. Eight pupils who aspired to white-collar jobs had parents who wished this for their children. However, when the two variables are taken together there is a co-efficient of correlation of 0,134 between the aspirations of the parents/guardians for the pupils and the pupils' own aspirations. Once again the co-efficient of correlation is so small as to be insignificant.

Table 12. Frequency analysis of the Parent/Guardian's career aspirations for the pupil and the pupil's own aspirations

	PUPILS' ASPIRATION		
PARENT/GUARDIAN'S ASPIRATION	Blue collar job	White collar job	
Blue collar job	3	4	N = 7
White collar job	5	8	N = 13

(2 non-responses)

3.6 Conclusions

The results suggest that Form Three pupils at Mount Royal Secondary School had slightly positive attitudes towards technical/vocational subjects. These attitudes seem, in one part, to be related to the pupils' perception of the employment value of a subject. This perception did not, however, seem related to the nature of employment the pupils aspired to.

Technical/Vocational subjects, especially Woodwork, were high on the list of favourite subjects. Reasons given were that they were useful when looking for a job. On the other hand, subjects like Shona and History were high on the list of disliked subjects and one of the main reasons given for this dislike was that pupils thought that these subjects did not enhance their chances of getting employment.

There is no correlation between the pupils' attitudes towards technical/ vocational subjects and their career aspirations. The pupils' perception of the usefulness of the technical/vocational subjects is also unrelated to the types of careers pupils aspired to. There were actually more white-collar job aspirants than blue-collar job aspirants who felt that these school subjects would be useful for the realisation of their careers.

The analyses done on the relationship between some factors of the home and pupils' attitudes towards technical/vocational subjects show consistent results. There seems to be no correlation between the parent's/guardian's number of years of education, type of job and career aspirations for the pupil, and the pupils' attitudes towards technical/vocational subjects. Where correlations have been shown to exist, they have been weak ones. It therefore appears that pupils' attitudes towards technical/vocational subjects are not related to the home variables studied here.

4. DISCUSSION

In the preceding chapters of this report, details of how this study was conducted and an analysis of the results were given. It is now proper that the findings be viewed against the objectives set and against the existing knowledge in this area. In opening the discussion, a summary of the study is given.

4.1 Summary of the study

The purpose of this study was to determine pupils' attitudes towards technical/ vocational subjects and to investigate within the setting of a school, the relationship between these attitudes and; (i) the pupils' perception of the world of work and (ii) the pupils' homes. The relationship between the pupils' attitudes and their perception of the world of work was studied through pupils' career aspirations, the pupils' reasons for career choice, and the perceived usefulness of named school subjects for the realisation of these career aspirations. The relationship between pupils' attitudes and the home environment was studied through the education, type of employment and career aspirations for the pupil of the parent/guardian.

The study was restricted to Form Three pupils at a chosen school and the corresponding parents/guardians of a selected sub-group of these pupils. The attitudes of two hundred pupils towards technical/vocational subjects were assessed by a Likert scale. The relationship between pupils' attitudes towards technical/vocational subjects and the world of work was investigated through a questionnaire administered to a sub-group of twenty-two pupils. The relationship between pupils' attitudes towards technical/vocational subjects and the pupils' homes was investigated through interviews held with the parents/ guardians of the twenty-two pupils. The data collected were analysed against the objectives of the study.

Objective 1. Pupils' attitudes towards technical/vocational subjects

The attitude scores of the pupils were grouped into five classes.The two classes with the lowest scores were taken to represent a negative attitude and the two classes with the higher scores were taken to represent a positive attitude towards technical/vocational subjects. The middle class was taken to represent pupils whose attitudes were neither positive nor negative . Using this classification, thirty-seven and a half percent of the pupils indicated positive attitudes towards technical/vocational subjects, twenty-seven percent indicated negative attitudes and thirty-five percent indicated that they were neither positively nor negatively disposed towards technical/vocational subjects. The results suggest that the majority of Form Three pupils at Mount Royal secondary school were either favourably disposed or neutral.

Objective 2. Relationship between pupils' perceptions of the world of work and pupils' attitudes towards technical/vocational subjects

Nearly as many pupils aspired to blue-collar as to white-collar occupations. Twelve of the twenty-two pupils indicated that they aspired to white-collar employment while the other ten aspired to blue-collar occupations. The reasons given for the career choices for most of the pupils aspiring to white-collar kinds of employment were, the opportunity to use one's natural talent and good salary. These were more frequent reasons than status. For those pupils aspiring to blue-collar employment, the salary was the least considered.

There was no correlation between pupils' attitudes towards technical/vocational subjects and their career aspirations. There was also no correlation between the type of career aspired to and the perceived usefulness of the technical/vocational subjects.

The overall conclusion is that the interest shown in technical/vocational subjects and their perceived usefulness seemed unrelated to the type of career aspired to. It also appears that perceptions of the world of work, through salary and status considerations, were marginally stronger with pupils aspiring for white-collar employment.

Objective 3. The relationship between the home, and pupils' attitudes towards technical/vocational subjects

The results of the interviews revealed that most of the parents/guardians had a full primary school education and that a few had an additional two or four years of secondary education. Most of these parents/guardians had blue-collar kinds of employment, a few had low-level jobs in commerce, one was an accountant and others were unemployed.

All the parents/guardians expressed the view in one way or the other, that the purpose of education was the betterment of an individual by giving the individual a foundation for vocational training. All the parents/guardians further agreed with the vocationalization of secondary school education. The underlying belief seemed to be that vocational education would be a basis for job-training or could be used for self-employment.

There was no correlation between the pupils' attitudes towards technical/vocational subjects and the variables of the home that were studied. Therefore, in spite of indications by some parents/guardians that they often discussed the pupils' education and career aspirations, the pupils' attitudes towards technical/vocational subjects and their career aspirations seemed independent of the home.

Finally, it must be realized that the results of the study have some limitations. First, the study was conducted within the context of a school. Its findings are therefore restricted to that school. A further limitation of the study is that it was conducted at an urban school, consequently its findings may not be relatable to schools in a rural environment.

4.2 Discussion of the results

In the literature review, it was pointed out that there is a growing school of thought which advocates a new focus of vocational education. It is argued that vocational education should move away from training in trade-specific skills towards a new emphasis on attitudinal orientation. The results of this study suggest that vocational education at Mount Royal Secondary School seemed to be having a measure of success in that regard. That the majority of the pupils indicated an attitude towards technical/vocational subjects that was not negative shows that, on the whole, Form Three pupils at this school had a positive attitude towards the technical/vocational subjects. Given the historical background of technical/vocational subjects in Zimbabwe, this is quite an unexpected finding. The measures that were taken to ensure the reliability and validity of the attitude scale, preclude errors as a possible explanation. The results can therefore be taken for what they are.

In looking at the results on the pupils' attitudes towards technical/vocational subjects, it must be remembered that at the start of this study, it had been surmised that attitudes towards technical/vocational subjects in Zimbabwe were not favourable. The findings reported here do not bear this out, at least not as far as it concerns Mount Royal Secondary School. The results therefore suggest that attitudes, which a decade ago were quite strongly against technical/ vocational subjects, are now changing. Since the F2 school system, with its technical/vocational subjects, was stigmatized it is very encouraging to find that attitudes towards technical/vocational subjects, at this former F2 school are changing. These results can be interpreted in a number of ways.

It can be assumed that factors within the school could have been partly responsible for the above findings. It is possible that the leadership of the school, conscious of the historical background of the school, might have adopted a deliberate strategy to promote positive attitudes towards technical/vocational subjects.

It is also possible that the high level of school-leaver unemployment in the country has encouraged pupils to have new perceptions of technical/vocational subjects, seeing them as enhancing their employment prospects or as equipping them with skills that will be invaluable in self-employment. Previously given

reasons for pupils' interest in these school subjects, give further support to this suggestion.

Another possible explanation of the results may be that the government's message that technical/vocational subjects are important school subjects may have begun to bear fruit. The government of Zimbabwe has, at various levels, been extoling the virtues of these school subjects and it is possible that this education and information drive is beginning to achieve its desired objective.

It is to be hoped that this favourable attitude of the pupils will translate into a favourable orientation towards technical-practical kinds of employment and an ability,in the pupils, to enter successfully into self-employment. After all, this is one of the goals of vocationalization.

The results of the study, on the part concerning the sub-group of twenty-two pupils, indicate that blue-collar kinds of employment , especially middle-level industrial occupations like motor mechanics, technicians, fitters and turners were just as popular as the white-collar kinds of employment. It has been argued that pupils would aspire to white-collar occupations, especially in a former colony where the white-collar jobs of the colonial administrative personnel had been greatly admired. The findings of this study did not support this argument. Instead they showed that blue-collar occupations were just as popular as the other class of occupations. Given Zimbabwe's socio-historical context, the interest shown in the blue-collar occupations is not hard to explain. It must be remembered that Zvobgo (1986) and N.P.Moyo (1988) point out that in pre-independent Zimbabwe, Africans were barred by various mechanisms from achieving the status of a skilled artisan. White skilled workers so jealously guarded their privileged position that these occupations remained a preserve for the whites. It is therefore understandable that in independent Zimbabwe, African pupils should show such an interest in these kinds of employment. It is possible that the jobs are seen as status jobs to which they previously had no access.

It is of interest to note that the finding that the pupils indicated a high preference for blue-collar jobs, when it would be assumed that the majority would prefer white-collar jobs, is not new in Africa. As early as the 1960s Foster (1965) found that blue-collar jobs of the kind given above, were popular with boys. The present study could not, however, confirm his contention that pupils show a preference for academic education because that is what pupils see as vocational education. Although in the present study, there was no correlation between the pupils' attitudes towards technical/vocational subjects and the pupils' career aspirations, it was found that the majority of the pupils had an interest in technical/vocational subjects because they thought the subjects would help them to realize their career aspirations.

As stated earlier, a pupil's attitudes towards technical/vocational subjects seemed unrelated to the kind of employment the pupil aspired to. Considering the practical nature of these school subjects, one would have expected pupils' interest in these school subjects to go hand in hand with an inclination towards blue-collar occupations.This study was unable to show any relationship. The results therefore suggest that pupils did not see their technical/vocational subjects as training them in job-specific skills. If they did, it would be difficult to understand how pupils aspiring for such white-collar occupations as nursing and secretarial work would show an interest in the technical/vocational subjects, considering that a subject's perceived employment value was the pupils' main reason for interest in the subjects. The findings therefore do not seem to confirm Närman's (1985) findings in his study of Industrial Education in Kenya. He found that Industrial Education was popular with students and their parents because of what was perceived to be its employment potential. In one way the findings of this study seem to agree with this earlier finding. This seems to be the position when one considers that so many pupils listed technical/vocational subjects among their favourite school subjects and, that they said they liked the subjects because they thought they would help them to realize their career ambitions. The absence of correlation between the pupils' attitudes and the pupils' career aspirations, however, throws doubt on the assumption that technical/vocational subjects are associated with blue-collar jobs.

It therefore seems reasonable to conclude that the pupils viewed the subjects as general school subjects, inculcating values and developing competences that the pupils perceived to be invaluable for a future career but that were applicable across many kinds of employment. Whether these perceptions were realistic or not is another matter.

The search for possible explanations for the lack of correlation between the pupils' attitude towards technical/vocational subjects and the pupils' career aspirations can be extended further. It is not inconceivable that factors within the school could have had a contribution to the findings. Teachers' attitudes, teachers' qualifications and teaching competences could have influenced the relationship between the above two factors that were correlated. In his study, Keeves (1972) found that a number of elements of the school as an educational environment, had an influence on pupils' performance in and attitude towards some school subjects. It is possible that this was also the case in the present study.

When it concerns the core subjects of the curriculum, the findings indicate that English and Science were popular, and equally so, with both pupils aspiring to blue-collar employment and those aiming for white-collar occupations. These subjects, together with Mathematics, are pre-requisites for virtually all kinds of employment in Zimbabwe, and pupils could not have been unaware of this.

Viewed in this light, the pupils' lack of interest in Mathematics was therefore surprising.

The pupils' reasons for lack of interest in Mathematics was that the subject is difficult. This lack of interest in a school subject of such employment utility, suggests that arguments by Foster (1965) and Wright (1988) about the influence of the employment value of a subject on pupils' attitudes towards the subject, may not be true in all cases. It appears that factors other than the employment value of a school subject can have a stronger influence on pupils' attitudes towards that school subject.

One of the elements of the foundations to this study was that pupils' attitudes towards some school subjects may be related to the homes from which these pupils come. Earlier studies (Keeves, 1972; Clifton, 1978) have suggested that the education, type of employment and career aspirations for the pupil of the father or the member of the family with the greatest influence on the education of the pupil, are related to a pupil's attitude towards some school subjects. The results of this study were unable to confirm this. There was no correlation between the pupils' attitudes towards technical/vocational subjects and any of the variables of the home that were studied. These findings can be explained in more than one way.

First, it can be argued that the lack of correlation between pupils' attitudes towards technical/vocational subjects and any of the variables of the home that were studied, could be put down to errors of measurement. But for reasons given earlier in this report, errors of measurement cannot be held accountable for this result.

One way of looking at the results is to accept that they suggest a bona fide departure from earlier findings. As pointed out earlier, the studies on the relationship between pupils' attitudes towards school subjects and their homes were conducted outside the LDCs, in countries that have very different socio-cultural environments. This difference can be a possible explanation for this lack of conformity to earlier findings. Most of the parents/guardians had rather a low level of education and low status occupations. It is thus unlikely that such a socio-economic status of the parent/guardian would have been a model to be aspired to by the pupils. If the parents/guardians socio-economic status inspired the pupils at all, it would have been because pupils saw the status as one they had to work hard to rise above. If this explanation is accepted, then the absence of a correlation between the pupils' attitudes towards technical/vocational subjects and the variables of the home that were studied becomes understandable.

The above line of reasoning can be stretched further. Most of the parents/ guardians had a level of education that was lower than that of the pupils. It can be argued that it is unlikely that such parents/guardians would have the same

perspective of education as the pupils, hence this lack of correlation between the pupils' attitudes towards technical/vocational subjects and the variables of the home that were studied.

Another possible way of looking at the unexpected findings is to take it that the results only suggest the absence of a correlation between the studied home variables and pupils' attitudes towards technical/vocational subjects. It is not suggested that there is no relationship between the homes per se and the pupils' attitudes towards technical/vocational subjects. In the Keeves (1972) and Clifton (1978) studies the father's education and occupation were found to be strongly related to pupils' performance in and attitudes towards some school subjects. Given the different socio-cultural context of Zimbabwe, it is possible that these variables may not have been the strongest variables of the home through which the relationship of the home to the pupils' attitudes could be studied. In arriving at this position, cognition is being given to the fact that any element of the educational environment is complex, with many subtle relationships between its variables. What may be a strong relationship in one setting can be a totally different relationship in another setting. It is therefore possible that in this study, other variables of the home that were not studied could have been related to the pupils' attitudes towards technical/vocational subjects and their career aspiration. Such home variables as the nature of the parent-child relationship and the parent/guardian's attitudes towards the pupil's education could be related to the pupils' attitudes.

In summing up, evidence that there is at least one school in Zimbabwe at which attitudes towards technical/vocational subjects are changing should be received as encouraging news indeed. This finding suggests that there is cause for hope for positive attitudes provided the basis for these attitudes is established and capitalized upon. The need to identify the factors related to pupils' attitudes towards the technical/vocational subjects cannot therefore be over-emphasized.

4.3 Implications of the study

This study was undertaken not in the hope of finding practical answers to problems, but rather in the hope that the findings would be relevant to an understanding of attitudes towards technical/vocational subjects and the factors that contribute to the shaping of these attitudes. In the course of the study, some lessons worth sharing with those interested in educational research were learnt, and important questions raised.

It has not been possible, in this study, to link pupils' attitudes towards technical/vocational subjects and the type of occupations that the pupils aspired for. Attitudes appeared independent of the pupils' career aspirations but it can be questioned whether these attitudes were really independent of the variables

that were studied. If pupils perceived the subjects as general school subjects, then what values, skills and competences did they find general and which ones did they find job-specific? Answers to these questions should provide useful knowledge especially for developers of vocational school programmes. Further study in this area is therefore called for, not only to seek answers to these questions but also to further investigate the relationship between the pupils' attitudes towards technical/vocational subjects and the pupils' perceptions of the world of work.

It has been postulated that factors within the school could have affected the pupils' attitudes towards technical/vocational subjects and their perceptions of the world of work. There is therefore need to also study the educational environment of the school and seek its relationship to the pupils' attitudes towards technical/vocational subjects as well as to the pupils' perception of the world of work. One dimension of the school that should be of interest is the pupils' peers in the school. In the literature review, it was pointed out that Keeves (1972) concluded that pupil's attitudes towards school were positively related to their friends' participation in Science and Mathematics lessons and negatively related to the friend's interest in pop-culture. Further study may investigate whether these and other variables of the peer group are related to pupils' attitudes towards technical/vocational subjects.

This study has been unable to confirm earlier findings that a pupil's attitude towards a school subject is related to the education, kind of occupation and career aspiration for the pupil of the parent/guardian. It has been suggested that this may be due to the low socio-economic status of the parent/guardian. It can be questioned whether the findings would be different with parents/guardians of a different socio-economic status. Further study in this direction would be useful.

It has also been suggested that the pupils' attitudes towards technical/vocational subjects may have been related to variables of the home that were not studied in the present study. Suggestions have been made as to which variables these could be. Further study is therefore necessary to identify these variables and determine the strength of their relationship to the pupils' attitudes towards technical/vocational subjects.

The results of this study also have implications for research practice. It has become evident that the question of attitudes towards technical/vocational subjects is very complex. Earlier findings were, in the main, not supported and more questions than answers were raised. This indicates that attitudes in vocational education are still a grey area of study in which further extensive exploration is necessary. Clear relationships between people's attitudes and the related variables must be established before any investigations at a wider scale are contemplated.

Finally it must be acknowledged that the road to scientific knowledge-building is long and difficult. Many problems are encountered and numerous questions are raised. Solutions and answers to these questions must be found if progress in knowledge building is to be made. The raising of questions then, is like erecting beacons that will guide the course of exploration. The present study claims to have raised a few beacons about attitudes towards technical/vocational subjects. The questions raised and relationships explored can only advance the search for a better understanding of technical/vocational education. If nothing else, then this is the greatest achievement of the study.

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Appendix 1.

LINKOPING UNIVERSITY, SWEDEN

A STUDY OF TECHNICAL EDUCATION IN ZIMBABWE

Name:_____ Class _____

INSTRUCTIONS.

Please answer the following questions honestly and frankly. Indicate the extent to which you agree with each of the following statements by circling the appropriate response at the right of each statement. If there is any statement you do not understand raise your hand and I will help you.

SA - strongly agree A- agree U- undecided D- disagree SD- strongly disagree.

Example:
The subjects students study in school should be arrived at by discussion involving the students, their parents and the teachers. SA (A) U D SD.

1. Practical subjects help students to understand better what they learn in other subjects.
SA A U D SD.

2. Pratical subjects are the only subjects in school that allow all pupils to express their creative abilities SA A U D SD

3 Practical subjects in secondary school take away time that could be better spent on other subjects.
SA A U D SD

4. All students who wish to become engineers give themselves good preparation if they learn practical subjects at school SA A U D SD

5 I have greater confidence in myself when I am making an object in a practical subject than when I am doing anything in other subjects SA A U D SD

6. Having a workshop at home is very good for one's hobby persuits SA A U D SD

7. Practical subjects are only necessary in a country facing school-leaver unemployment SA A U D SD

8 I associate the wearing of overalls, boots and aprons at work with little education and low status SA A U D SD

9 Practical subjects should be part of general education for all students in secondary school SA A U D SD

10 The combining of theory and practice makes learning of practical subjects more interesting than other school subjects SA A U D SD

11 Practical subjects equip learners with skills that they will find useful in life. SA A U D SD

12 One does not get as much pride in learning practical subjects as one gets from learning other school subjects SA A U D SD

13 Practical subjects are too tiring to be part of school education SA A U D SD

14 Practical subjects provide students with opportunities to derive joy and satisfaction from what they learn SA A U D SD

15 Practical subjects help in educating the whole child SA A U D SD

16 Practical subjects are to be avoided in school as much as possible. SA A U D SD

17 The study of practical subjects should be left to only those students with little chance of getting managerial and professional jobs SA A U D SD

18 Woodwork trains one in methodical reasoning and problem solving SA A U D SD

19 I have greater interest in practical subjects now than I had when I started Form One SA A U D SD

20 I would support a move to reduce time spent on practical subjects. SA A U D SD

21 I study practical subjects only because they are part of the subjects offered in my school. SA A U D SD

22 Practical subjects are of great value SA A U D SD

23 Practical subjects provide students with opportunities to develope desirable character qualities like patience. SA A U D SD

24 The completion of tasks in practical subjects gives one a feeling of satisfaction that one rarely gets from other school subjects. SA A U D SD

25 If, for any reason, a few subjects have to be dropped from the school programme, practical subjects should be among those subjects. SA A U D SD

THANK YOU.

Appendix 2.

LINKÖPING UNIVERSITY, SWEDEN.

A STUDY OF TECHNICAL EDUCATION IN ZIMBABWE.

INTERVIEW WITH PARENTS/ GUARDIANS.

Name:_____ Date: _____

Name of pupil. _____

1. What is your occupation?_____

2. Did you undergo any training for the job?

   Yes ( ) No. ( )

3. After how many years of education did you go for training/employment _____

4. What, in your opinion, is the purpose of education?

   _____

   _____

5. At the moment every secondary school pupil in Zimbabwe is required to study at least one technical subject. What do you think about this requirement?

   _____

   _____

   _____

6. Judging from your child/dependent's performance in school so far, would you say he/she is performing in the way you would expect of him/her?

Yes. ( ) No ( )

7. In which subjects do you find his/her performance most satisfactory?

_____ _____

_____ _____

8. In which ones do you find the performance least satisfactory?

_____ _____

_____ _____

9. If the school your child/dependent attends decided to reduce the number of subjects taught and they left the choice of the subjects to the pupils, which two subjects would you advise your child/dependent to drop?

(a) _____

(b) _____

10. Why would you advise him/her to drop those subjects? _____

_____

_____

11. What are your ambitions for your child/dependent?

_____

_____

12 Do you talk with your child/dependent about your career aspirations for him/her?

( ) Quite a number of times.

( )Rarely.

( ) No.

IF YES What do you usually talk about? _____

_____

_____

_____

IF NO Do you think you are likely to talk about it in the future?

_____

IF NO Why not? _____

_____

_____

_____

IF YES What do you think you will talk about? _____

_____

_____

_____

_____

THANK YOU.

Appendix 3.

LINKÖPING UNIVERSITY, SWEDEN

A STUDY OF TECHNICAL EDUCATION IN ZIMBABWE.

Name: _____

Class. _____

INSTRUCTIONS.

Answer the following questions honestly and frankly. For your answer to a question, place a tick ( ) in the brackets or boxes corresponding to your answer or write your answer on the lines provided.

1.1 Which member of your family has the greatest influence on your education?

( ) Father.
( ) Mother.
( ) Brother.
( ) Sister.
( )Other person, namely _____

1.2 If the person with the greatest influence on your education suggested what job he thinks is best for you, would that influence your choice of career?

( ) Certainly.
( ) Very likely.
( ) Maybe.
( ) Not at all.

1.3 Name two pupils that you regard as your best friends who are either in your class or in another class of the same form.

Name of friend.	Class
1. _____	_____
2. _____	_____

2.1 Name your two favourite school subjects.

_____

2.2 Which two of the following do you regard as the most likely reasons for liking a school subject?

( ) The friendliness of the subject teacher.
( ) A person's natural ability in the subject.
( ) If the subject will help one to get a job.
( ) The popularity of the subject with other students.
( ) Other reason, namely _____

_____

2.3 Which two subjects do you dislike most?_____

_____

2.4 Which one of the following do you think is the strongest reason for your dislike of the subjects you named above?

( ) Dissatisfaction with the way the subject is taught.
( ) The subject is difficult.
( ) I do not think that the subject is important.
( ) Other reason, namely _____

2.5 Name the kind of job you would like to have when you leave school?

_____

2.6 Which two of the following statements would be the most important reasons for the career choice that you made above?

( ) The occupation allows me to use my natural talents.
( ) The occupation pays a good salary.
( ) The occupation has few risks of injury.
( ) The ocupation is a highly respected one in our soceity.
( ) The occupation would please my parents.
( ) The occupation is a smart , tie and jacket kind of work.

2.7 Rate how useful you think each of your school subjects is in helping you to get the job you chose in number 2.5 above. Cross out subjects that you do not study.

	RATING.			
SUBJECT.	Very useful	Useful	Of no use	I do not know
English				
Accounts.				
Technical Drawing.				
Shona.				
History.				
Agriculture.				
Science.				
Building.				
Bible Knowledge.				
Geography.				
Metalwork.				
Mathematics.				
Woodwork.				
Fashion And Fabrics.				
Food and Nutrition.				
Commerce.				

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2.8 If a decision were made in your school to reduce the number of subjects you study, would you agree to the dropping of any of the following subjects? Cancel those subjects that you do not study

	Agree	Undecided	Disagree
Accounts			
Fashion and Fabrics			
Building			
Agriculture			
Food and Nutrition			
Technical Drawing			
English			
Metalwork			
Mathematics			
Woodwork			
Commerce			
Science			
Bible Knowledge			

2.9 If technical/vocational subjects were introduced at "A" level would you consider studying them at that level?

( ) Yes
( ) No

THANK YOU